

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: June 3, 1997
Date Received: May 29, 1997
Project: Metro Self Monitor, PO #M57339
Date Samples Extracted: May 29, 1997
Date Extracts Analyzed: June 2, 1997

**RESULTS FROM THE ANALYSIS OF THE PROCESS WATER SAMPLE
FOR CHROMIUM, COPPER, NICKEL, AND ZINC
USING METHOD 6010**

Samples Processed Using Method 3005A
Results Reported as mg/L (ppm)

<u>Sample ID</u>	<u>Chromium</u>	<u>Copper</u>	<u>Nickel</u>	<u>Zinc</u>
M57339	0.73	0.61	0.83	0.06
Method Blank	<0.05	<0.05	<0.05	<0.05

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**QUALITY ASSURANCE RESULTS FOR
THE ANALYSIS OF WATER SAMPLES
FOR TOTAL METALS BY
INDUCTIVELY COUPLED PLASMA (ICP)
(METHOD 6010)**

Laboratory Code: 78288 (Duplicate)

<u>Analyte:</u>	<u>Reporting Units</u>	<u>Sample Result</u>	<u>Duplicate Result</u>	<u>Relative Percent Difference</u>	<u>Acceptance Criteria</u>
Chromium	mg/L (ppm)	0.42	0.43	2	0-20
Copper	mg/L (ppm)	0.44	0.43	2	0-20
Nickel	mg/L (ppm)	0.71	0.57	22h	0-20
Zinc	mg/L (ppm)	0.06	0.05	18	0-20

Laboratory Code: 78288 (Matrix Spike)

<u>Analyte:</u>	<u>Reporting Units</u>	<u>Spike Level</u>	<u>Sample Result</u>	<u>% Recovery</u>		<u>Acceptance Criteria</u>	<u>Relative Percent Difference</u>
				<u>MS</u>	<u>MSD</u>		
Chromium	mg/L (ppm)	5	0.42	89	91	80-120	2
Copper	mg/L (ppm)	5	0.44	81	82	80-120	1
Nickel	mg/L (ppm)	10	0.71	91	90	80-120	1
Zinc	mg/L (ppm)	5	0.06	93	94	80-120	1

Laboratory Code: Spike Blank

<u>Analyte:</u>	<u>Reporting Units</u>	<u>Spike Level</u>	<u>% Recovery</u>		<u>Acceptance Criteria</u>	<u>Relative Percent Difference</u>
			<u>MS</u>	<u>MSD</u>		
Chromium	mg/L (ppm)	5	98	97	80-120	1
Copper	mg/L (ppm)	5	95	92	80-120	3
Nickel	mg/L (ppm)	10	102	101	80-120	1
Zinc	mg/L (ppm)	5	102	101	80-120	1

h. The RPD results are outside of the acceptance criteria established for this analysis. The sample contained suspended particulates. The variability present can be attributed to this sample type.

1:25

Date 5-29-57

SAMPLE DISPOSAL INFORMATION

[illegible]

Signature	PRINT NAME	COMPANY	Date	Time
<i>[Signature]</i>	GERARD Thompson	ACW	5/29/87	1:18pm
<i>[Signature]</i>	MANUEL MARTI	FLBI	5-29-87	1:18pm

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Beth Albertson, M.S.
Charlene Jensen, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.
Melanie Kirol, B.S.

June 3, 1997

3012 16th Avenue West
Seattle, WA 98119-2029
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FAX: (206) 283-5044
e-mail: fbi@isomedia.com

**INVOICE # 97ACU0603-2
DUPLICATE COPY**

Accounts Payable
Alaskan Copper Works
628 South Hanford St.
Seattle, WA 98134

RE: Project Metro Self Monitor, PO #M57339: Results of testing requested by
Gerry Thompson, Project Manager for material submitted on May 29, 1997.

1 process water sample analyzed for
Chromium, Copper, Nickel, and Zinc
using Method 6010 @ \$65 per sample

\$ 65.00

Amount Due

\$ 65.00

FEDERAL TAX ID # (b) (6)

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June 3, 1997

**Gerry Thompson, Project Manager
Alaskan Copper Works
628 South Hanford St.
Seattle, WA 98134**

Dear Mr. Thompson:

**Included are the results from the testing of material submitted on May 29, 1997
from your Metro Self Monitor, PO #M57339 project.**

**We appreciate this opportunity to be of service to you and hope you will call if you
should have any questions.**

Sincerely,

FRIEDMAN & BRUYA, INC.



**Kurt Johnson
Chemist**

**keh
Enclosures
ACU0603R.DOC**